

09/833537

cofe

Barristers & Solicitors  
Patent & Trade-mark Agents

McCarthy Tétrault



January 16, 2007

VIA COURIER

United States Patent and Trademark Office  
Customer Service Window  
Office of Patent Publication  
Attention: Certificates of Correction Branch  
Randolph Building  
401 Dulany Street  
Alexandria, Virginia 22314  
U.S.A.

Dear Commissioner for Patents:

**RE: U.S. Patent No. 7,054,274**  
**Inventors: Woldek Olesinski, et al.**  
**For: Method and Apparatus for Processing Requests for Statistics in a**  
**Communication Network**  
**Docket No.: 123081-339613**

Please find attached the following documents for filing with respect to the above patent:

1. Transmittal Form (1 sheet);
3. Request for Certificate of Correction (39 pages); and,
4. Certificate of Correction (2 sheets).

The Commissioner is hereby authorized to charge all necessary fees and to credit Deposit Account No. 150633 in the name of McCarthy Tétrault LLP (Customer No. 27,155).

Please date stamp and return to us the enclosed "Return Receipt Postcard".

McCarthy Tétrault LLP  
Box 48, Suite 4700  
Toronto Dominion Bank Tower  
Toronto ON M5K 1E6  
Canada  
Telephone: 416 362-1812  
Facsimile: 416 868-0673  
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Joseph Conneely  
Direct: 416-601-8179  
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E-Mail: jconneely@mccarthy.ca

**Certificate**  
**JAN 23 2007**  
**of Correction**

**JAN 23 2007**

McCarthy Tétrault

January 16, 2007

- 2 -

USPTO

Thank you very much for your assistance in this matter.

Yours very truly,  
**McCarthy Tétrault LLP**

Per:



Joseph Conneely  
JC/tf  
/Enclosure

JAN 23 2007



PTO/SB/21 (09-06)

Approved for use through 03/31/2007. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

42

Application Number

09/833,531

Filing Date

APRIL 11, 2001

First Named Inventor

WLODEK OLESINSKI

Art Unit

2663

Examiner Name

FEBEN HAILE

Attorney Docket Number

123081-339613

**ENCLOSURES (Check all that apply)**☐

Fee Transmittal Form

☐

Fee Attached

☐

Amendment/Reply

☐

After Final

☐

Affidavits/declaration(s)

☐

Extension of Time Request

☐

Express Abandonment Request

☐

Information Disclosure Statement

☐

Certified Copy of Priority Document(s)

☐Reply to Missing Parts/  
Incomplete Application☐Reply to Missing Parts  
under 37 CFR 1.52 or 1.53☐

Drawing(s)

☐

Licensing-related Papers

☐

Petition

☐Petition to Convert to a  
Provisional Application☐

Power of Attorney, Revocation

☐

Change of Correspondence Address

☐

Terminal Disclaimer

☐

Request for Refund

☐

CD, Number of CD(s) \_\_\_\_\_

☐ Landscape Table on CD☐

After Allowance Communication to TC

☐Appeal Communication to Board  
of Appeals and Interferences☐Appeal Communication to TC  
(Appeal Notice, Brief, Reply Brief)☐

Proprietary Information

☐

Status Letter

☒Other Enclosure(s) (please identify  
below):REQUEST FOR CERTIFICATE OF  
CORRECTION

Remarks

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name

MCCARTHY TETRAULT LLP (CUST. NO. 27,155)

Signature

Printed name

JOSEPH CONNEELY

Date

JANUARY 16, 2007

Reg. No.

54,883

**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature

Typed or printed name

Date

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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JAN 23 2007

## UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 2

PATENT NO. : 7,054,274

APPLICATION NO.: 09/833,531

ISSUE DATE : May 30, 2006

INVENTOR(S) : Wlodek Olesinski, et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

1. Claim 1, column 15, line 51: Replace the word -- on -- with the word -- one --.
2. Claim 2, column 16, line 1: Replace the word -- Then -- with the word -- The --.
3. Claim 3, column 16, line 14: Replace the word -- tacking -- with the word -- tracking --.
4. Claim 7, column 17, line 4: Insert the word -- of -- after the word -- step --.
5. Claim 9, column 17, line 23: Insert the word -- of -- after the word -- step --.
6. Claim 16, column 18, line 53: Replace the word -- tipper -- with the word -- upper --.
7. Claim 17, column 19, line 8: Insert the word -- of -- after the word -- ranking --.
8. Claim 19, column 19, line 19: Replace the word -- far -- with the word -- for --.
9. Claim 20, column 19, line 42: Replace the word -- tacks -- with the word -- tracks --.
10. Claim 28, column 21, line 12: Replace the word -- tacking -- with the word -- tracking --.

**MAILING ADDRESS OF SENDER (Please do not use customer number below):**

McCarthy Tetrault LLP, Box 48, Suite 4700, 66 Wellington Street West, Toronto, Ontario, Canada M5K 1E6  
(File Number 123081-339613)

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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**JAN 23 2007**

**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**Page 2 of 2

PATENT NO. : 7,054,274

APPLICATION NO.: 09/833,531

ISSUE DATE : May 30, 2006

INVENTOR(S) : Wlodek Olesinski, et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

11. Claim 28, column 22, line 5: Replace the word -- wit -- with the word -- with --.
12. Specification, column 2, line 18: Replace the word -- Or -- with the word -- or --.
13. Specification, column 2, line 36: Replace the word "inventions" with the word "invention" and insert a comma -- , -- after the word -- invention --.
14. Specification, column 3, line 28: Replace the word -- nonwireless -- with the word -- non-wireless --.
15. Specification, column 7, line 25: Replace the word -- bandwidths -- with the word -- bandwidth --.

**MAILING ADDRESS OF SENDER (Please do not use customer number below):**

McCarthy Tetrault LLP, Box 48, Suite 4700, 66 Wellington Street West, Toronto, Ontario, Canada M5K 1E6  
(File Number 123081-339613)

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**JAN 23 2007**



**IN THE UNITED STATES PATENT & TRADEMARK OFFICE**

Patent No. : 7,054,274  
Issued : May 30, 2006  
Title : METHOD AND APPARATUS FOR PROCESSING REQUESTS  
FOR STATISTICS IN A COMMUNICATION NETWORK  
Applicant : Wlodek Olesinski, et al.  
Application No. : 09/833,531  
Filed : April 11, 2001  
Confirmation No. : 2480  
Art Unit : 2663  
Examiner : Feben Haile  
Docket No. : 123081-339613  
Customer No. : 27,155

Commissioner of Patents  
Office of Patent Publication  
Attention: Certificates of Correction Branch  
P.O. Box 1450  
Alexandria, V.A. 22313-1450

**REQUEST FOR CERTIFICATE OF CORRECTION**

Sir:

The Applicant respectfully requests the issue of a Certificate of Correction for the above noted patent.

The errors for which corrections are requested were made by the Patent Office.

JAN 23 2007

The requested corrections are as follows:

1. Claim 1, column 15, line 51: Replace the word -- on -- with the word -- one --.
2. Claim 2, column 16, line 1: Replace the word -- Then -- with the word -- The --.
3. Claim 3, column 16, line 14: Replace the word -- tacking -- with the word -- tracking --.
4. Claim 7, column 17, line 4: Insert the word -- of -- after the word -- step --.
5. Claim 9, column 17, line 23: Insert the word -- of -- after the word -- step --.
6. Claim 16, column 18, line 53: Replace the word -- tipper -- with the word -- upper --.
7. Claim 17, column 19, line 8: Insert the word -- of -- after the word -- ranking --.
8. Claim 19, column 19, line 19: Replace the word -- far -- with the word -- for --.
9. Claim 20, column 19, line 42: Replace the word -- tacks -- with the word -- tracks --.
10. Claim 28, column 21, line 12: Replace the word -- tacking -- with the word -- tracking --.
11. Claim 28, column 22, line 5: Replace the word -- wit -- with the word -- with --.
12. Specification, column 2, line 18: Replace the word -- Or -- with the word -- or --.
13. Specification, column 2, line 36: Replace the word “inventions” with the word “invention” and insert a comma -- , -- after the word -- invention --.
14. Specification, column 3, line 28: Replace the word -- nonwireless -- with the word -- non-wireless --.
15. Specification, column 7, line 25: Replace the word -- bandwidths -- with the word -- bandwidth --.

Please find enclosed a completed Form PTO/SB/44 (“Certificate of Correction”) indicating the above corrections.

The above corrections are fully supported by the following documents (a copy of each of which is enclosed for reference):

**JAN 23 2007**

1. The Applicant's "Transmittal" of October 12, 2005 which includes "Proposed Amendments..." to certain claims.
2. The Examiner's "Notice of Allowance" of October 19, 2005 which includes an "Examiner's Amendment" that adopts the proposed claim amendments of the above noted "Transmittal" of October 12, 2005 but which introduces errors to some of these proposed claims. The related errors in the above listing are errors 1 and 7.
3. The Applicant's "Response To Office Action" of July 20, 2005 which provides a full listing of the claims prior the above noted "Transmittal" of October 12, 2005. The related errors in the above listing are errors 2-6 and 8-11.
4. Pages 3, 4, 5, and 13 of the application as filed which relate to errors 12, 13, 14, and 15 above, respectively.

If necessary, the Commissioner is hereby authorized to charge all necessary fees and to credit Deposit Account No. 150633 in the name of McCarthy Tétrault LLP (Customer No. 27,155).

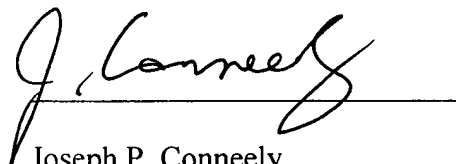
No new matter has been entered by the above corrections.

Respectfully submitted,

McCarthy Tétrault LLP

Date: January 16, 2007

By



Joseph P. Conneely  
Registration No. 54,883  
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Enclosures

JAN 23 2007



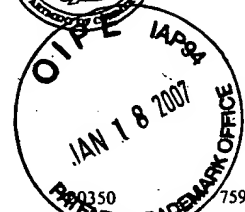


OCT 27 2005

UNITED STATES PATENT AND TRADEMARK OFFICE

028350-000100US

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
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www.uspto.gov

*DTG, DE/Transferred***NOTICE OF ALLOWANCE AND FEE(S) DUE**

TOWNSEND AND TOWNSEND AND CREW, LLP  
TWO EMBARCADERO CENTER  
EIGHTH FLOOR  
SAN FRANCISCO, CA 94111-3834

10/19/2005

EXAMINER

HAILE, FEBEN

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 10/19/2005

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,531	04/11/2001	Wlodek Olesinski	028350-000100US	2480

TITLE OF INVENTION: METHOD AND APPARATUS FOR PROCESSING REQUESTS FOR STATISTICS IN A COMMUNICATION NETWORK

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$1700	01/19/2006

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

**HOW TO REPLY TO THIS NOTICE:****I. Review the SMALL ENTITY status shown above.**

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

JAN 23 2007

*TRC*

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

1. Authorization for this examiner's amendment was given in a telephone interview with Robert Nakano on October 14, 2005.

The application has been amended as follows:

**Claim 1.** (currently amended) A method of defining an order for sending a plurality of request for statistics to an associated plurality of nodes in a communication network, on or more requests of said plurality of requests being associated with an individual node of said associated plurality of nodes and each of said associated plurality of nodes having one or more node attributes, said method comprising steps of:

defining for each node of said associated plurality of nodes a translated value related to a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes [,.] ;

after all translated values of said associated plurality of nodes are defined, defining a sequence for sending said plurality of requests to be sent to said associated plurality of nodes, said sequence based on said value of said selected node attribute and a ranking of said all translated values;

initiating each of said plurality of requests according to said sequence.

JAN 23 2007

**Claim 20.** (currently amended) An apparatus for use in a statistics collection unit in a communication network, said apparatus comprising:

a device defining a sequence for sending a plurality of requests for statistics to be sent from said statistics collection unit to an associated plurality of nodes of said plurality of nodes ~~in said segment~~ and defining for each node of said associated plurality of nodes a translated value related to said value of said selected node attribute prior to said defining said sequence,

wherein for said device

one ~~or more requests~~ request of said plurality of requests is associated with an individual node of said associated plurality of nodes;

each of said associated plurality of nodes has one or more node attributes;

said sequence is based on a ranking ~~of said associated plurality of nodes based on a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes~~ all of translated values; and

said device initiates each of said plurality of requests according to said sequence.

**Claim 21.** (currently cancelled)

**Claim 25.** (currently amended) The apparatus for use in a statistics collection unit as claimed in Claim 24, wherein said upper bound number for said each of said associated plurality of nodes is separately defined for said each of said associated plurality of nodes ~~in said segment.~~

JAN 23 2007

Claim 30. (currently amended) A computer executable program embodied on a computer readable medium for use on a communication network, said communication network comprising a plurality of nodes, said computer executable program executing the steps of:

defining a sequence for sending a plurality of requests for statistics to an associated plurality of ~~[[said]]~~ nodes of said plurality of nodes by ~~selecting two or more of said node attributes and for each of said two or more of said node attributes and ranking said associated plurality of nodes based on said value of said each of said two or more of said node attributes, one or more requests of said plurality of requests being associated with an individual node of said associated plurality of nodes and each of said associated plurality of nodes having one or more node attributes, said sequence being based on a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes; and~~

defining for each of said associated plurality of nodes a translated value related to a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes; and

after all translated values of said associated plurality of nodes are defined, defining a sequence for sending said plurality of requests to be sent to said associated plurality of nodes, said sequence based on said value of said selected node attribute and a ranking of said all translated values;

and

initiating each of said plurality of requests according to said sequence.

**Claim 31.** (currently cancelled)

***Allowable Subject Matter***

2. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art of record fails to disclose, teach, or fairly suggest "...defining for each node of said associated plurality of nodes a translated value related to a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes; and after all translated values of said associated plurality of nodes are defined, defining a sequence for sending said plurality of requests to be sent to said associated plurality of nodes, said sequence based on said value of said selected node attribute and a ranking of said all translated values...".

Regarding claim 14, the prior art of record fails to disclose, teach, or fairly suggest "...a translation module defining for each of node of said associated plurality of nodes a translated value related to said value of said selected node attribute prior to definition of said sequence by said by said sequencing module, wherein said sequencing module utilizes a ranking of all translated values of said associated plurality of nodes to define said sequence".

Regarding claim 20, the prior art of record fails to disclose, teach, or fairly suggest "...defining for each node of said associated plurality of nodes a translated value related to said value of said selected node attribute prior to said defining said sequence; and said sequence is based on a ranking of all translated values...".

JAN 23 2007

**Regarding claim 30**, the prior art of record fails to disclose, teach, or fairly suggest "...defining for each of said associated plurality of nodes a translated value related to a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes; and after all translated values of said associated plurality of nodes are defined, defining a sequence for sending said plurality of requests to be sent to said associated plurality of nodes, said sequence based on said value of said selected node attribute and a ranking of said all translated values..."

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a) Ali et al. (Us 2003/0115508), System and Method for Collecting Statistics for a Communciation Network

b) Akahane et al. (US 2005/0013300), Packet Forwarding Device Equipped with Statistics Collection Device and Statistics Collection Method

c) Trofin et al. (US 6,661,778), Method and Apparatus for Statistics Collection in a Data Communication Network


SH 10/17/2005

JAN 23 2007

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M. Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
RICKY NGO  
PRIMARY EXAMINER  
SPE, AU 2663

JAN 23 2007

Certificate of Transmission:

Pursuant to 37 C.F.R. s. 1.8, I certify that the following correspondence is being transmitted via facsimile transmission to the United States Patent Office at telephone number (571) 273-3072 on October 12, 2005.

Signature: 

Date: October 12, 2005

Name: \_\_\_\_\_

Robert H. Nakano (Reg. 46, 498)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

<b>In re Application of:</b>	<b>OLESINSKI, Wlodek et al.</b>
<b>Title:</b>	<b>METHOD AND APPARATUS FOR PROCESSING REQUESTS FOR STATISTICS IN A COMMUNICATION NETWORK</b>
<b>Serial No.:</b>	<b>09/833,531</b>
<b>Art Unit:</b>	<b>2661</b>
<b>Examiner:</b>	<b>Feben M. HAILE</b>
<b>Atty's Docket No.:</b>	<b>123081-339613 (T01215-0073-US)</b>

Date: October 12, 2005

Commissioner for Patents  
United States Patent and Trademark Office  
Direct Fax to Examiner Haile  
Randolph Building  
401 Dulany Street  
Alexandria, Virginia 22314  
U.S.A.

**TRANSMITTAL**

Sir:

This is further to a telephonic interview between the undersigned attorney and the Examiner, wherein discussions were held to attempt to identify allowable claim language for claims 20 and 30. During the interview, the Examiner agreed to consider proposed claim amendments which would make certain claims allowable.

JAN 23 2006



Applicant submits the following claim amendments for consideration for entry via an Examiner's amendment.

**Proposed Amendments to the Claims** are reflected in the listings of proposed claims which beings on page 3 of this paper.

**Remarks** begin on page 6 of this paper.

JAN 23 2011

**Proposed Amendments to the Claims 1, 20, 21, 25, 30 and 31**

These proposed amendments, shown in blackline and strikeout from the claims as presented in the Response dated July 20, 2005, are provided as a basis for an Examiner's amendment.

Claim 1. (proposed amendment) A method of defining an order for sending a plurality of requests for statistics to an associated plurality of nodes in a communication network, one or more requests of said plurality of requests being associated with an individual node of said associated plurality of nodes and each of said associated plurality of nodes having one or more node attributes, said method comprising steps of:

defining for each node of said associated plurality of nodes a translated value related to a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes[[]] ;

after all translated values of said associated plurality of nodes are defined, defining a sequence for sending said plurality of requests to be sent to said associated plurality of nodes, said sequence based on said value of said selected node attribute and a ranking of said all translated values; and

initiating each of said plurality of requests according to said sequence.

Claim 20. (proposed amendment) An apparatus for use in a statistics collection unit in a communication network, said apparatus comprising:

a device defining a sequence for sending a plurality of requests for statistics to be sent from said statistics collection unit to an associated plurality of nodes of said plurality of nodes ~~in said segment~~ and defining for each node of said associated plurality of nodes a

translated value related to said value of said selected node attribute prior to said defining said sequence,

wherein for said device

one ~~or more requests~~ request of said plurality of requests is associated with an individual node of said associated plurality of nodes;

each of said associated plurality of nodes has one or more node attributes;

said sequence is based on a ranking of ~~said associated plurality of nodes based on a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes~~ all of translated values; and

said device initiates each of said plurality of requests according to said sequence.

Claim 21. (proposed to be cancelled)

Claim 25. (proposed amendment) The apparatus for use in a statistics collection unit as claimed in Claim 24, wherein said upper bound number for said each of said associated plurality of nodes is separately defined for said each of said associated plurality of nodes ~~in said segment~~.

Claim 30. (proposed amendment) A computer executable program embodied on a computer readable medium for use on a communication network, said communication network comprising a plurality of nodes, said computer executable program executing the steps of:

defining a sequence for sending a plurality of requests for statistics to an associated plurality of ~~[[said]]~~ nodes of said plurality of nodes by ~~selecting two or more of said node attributes and for each of said two or more of said node attributes and ranking said associated plurality of nodes based on said value of said each of said two or more of said node attributes, one or more requests of said plurality of requests being associated with an individual node of said associated plurality of nodes and each of said associated plurality of nodes having one or more node attributes, said sequence being based on a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes; and~~

defining for each node of said associated plurality of nodes a translated value related to a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes; and

after all translated values of said associated plurality of nodes are defined, defining a sequence for sending said plurality of requests to be sent to said associated plurality of nodes, said sequence based on said value of said selected node attribute and a ranking of said all translated values;

and

initiating each of said plurality of requests according to said sequence.

Claim 31. (proposed to be cancelled)

## REMARKS

Applicant understands from the telephonic interview of October 6, 2005 with the Examiner that claims 1, 3-14, and 16-19 as presented in the Response dated July 20, 2005 are allowable. Claims 2, 15, 19 and 32 were cancelled in the Response. Currently, claims 20 to 31, 33 and 34 remain objected to.

To make remaining claims 20 to 31 and 33 to 34 allowable, Applicant submits proposed amendments to claims 20 and 30. Briefly, proposed amendments to claims 20 and 30 incorporate features from allowed claim 1. Claims 21 and 31 are proposed to be cancelled. An amendment is proposed for claim 25 to make its elements consistent with proposed amendments in claim 20.

First, to correct a grammatical error, Applicant requests that the Examiner amend Claim 1 as noted above to replace the “,” with a -- ; -- at the end of its first step.

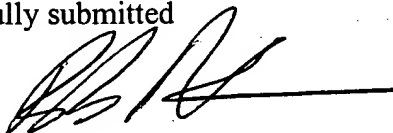
As Applicant understands that claim 1 is allowable, Applicant submits that if all aspects of claim 1 are incorporated with appropriate grammatical changes into claims 20 and 30, then claims 20 and 30 should also be allowable. In view of proposed amendments to claim 20 to delete the element “said segment” [sic], a further proposed amendment is made to claim 25 to delete the same element therefrom.

Applicant understand that Examiner is making an additional objection to claim 30 based on Section 101. Applicant proposes to further amend claim 30 to include in its preamble the phrase “embodied on a computer readable medium”, as noted.

No new subject matter is provided with the proposed amendments. Applicant submits that the proposed amendments to the claims as provided herein would place remaining claims 20, 22 to 31 and 33 to 34 in condition for allowance. Applicant earnestly solicits that the Examiner accepts these proposed amendments and enter them via an Examiner's amendment.

The Examiner is invited to contact the undersigned by telephone to discuss this case further, if necessary.

Respectfully submitted



October 12, 2005

Date

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Certificate of Transmission:

Pursuant to 37 C.F.R. s. 1.8, I certify that the following correspondence is being transmitted via facsimile transmission to the United States Patent Office at telephone number (571) 273-8300 on July 20, 2005.

Signature:



Date: July 20, 2005

Name:

Robert Nakano (Reg. No. 46,498)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

<b>In re Application of:</b>	<b>OLESINSKI, Wlodek et al.</b>
<b>Title:</b>	<b>METHOD AND APPARATUS FOR PROCESSING REQUESTS FOR STATISTICS IN A COMMUNICATION NETWORK</b>
<b>Serial No.:</b>	<b>09/833,531</b>
<b>Art Unit:</b>	<b>2663</b>
<b>Examiner:</b>	<b>Feben M HAILE</b>
<b>Atty's Docket No.:</b>	<b>123081-339613 (T01215-0073-US)</b>

Date: July 20, 2005

Commissioner for Patents  
United States Patent and Trademark Office  
Customer Window, Mail Stop AMENDMENT  
Randolph Building  
401 Dulany Street  
Alexandria, Virginia 22314  
U.S.A.

**RESPONSE TO OFFICE ACTION**

Sir:

This is in response to the Office Action mailed April 21, 2005. This response is filed within the three-month shortened statutory period for reply and Applicant believes that an extension of time is not required. However, if any extension is deemed required, Applicant

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hereby petitions for such extension and Commissioner is authorized to charge any fees relating to such extension to agent's deposit account no. 15-0633.

Submitted concurrently with this transmittal of July 20, 2005 is a Revocation of Power of Attorney and Appointment of New Power of Attorney.

Kindly amend the subject application as follows, in view of the comments set out herebelow.

**Amendments to the Claims** are reflected in the listings of claims which beings on page 3 of this paper.

**Remarks** begin on page 15 of this paper.



**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1. (Currently Amended) A method of defining an order for sending a plurality of requests for statistics to an associated plurality of nodes in a communication network, one or more requests of said plurality of requests being associated with an individual node of said associated plurality of nodes and each of said associated plurality of nodes having one or more node attributes, said method comprising steps of:

defining for each node of said associated plurality of nodes a translated value related to a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes,

after all translated values of said associated plurality of nodes are defined, defining a sequence for sending said plurality of requests to be sent to said associated plurality of nodes, said sequence based on [[a]] said value of [[a]] said selected node attribute and a ranking of said all translated values of said one or more node attributes of each of said associated plurality of nodes; and

initiating each of said plurality of requests according to said sequence.

Claim 2. (Cancelled)

Claim 3. (Currently Amended) [[A]] The method of defining an order for sending a plurality of requests for statistics as claimed in Claim 1, wherein said step of defining said sequence comprises selecting two or more of said node attributes and for each of said two or more of said node attributes, refining ranking of said associated plurality of nodes based on said value of said each of said two or more of said node attributes.

Claim 4. (Currently Amended) [[A]] The method of defining an order for sending a plurality of requests for statistics as claimed in Claim 1,

said method further comprising steps of:

receiving data regarding a plurality of responses from said associated plurality of nodes which received said plurality of requests; and

tracking a number of outstanding requests in a segment of said network, said segment associated with said associated plurality of nodes, said number of outstanding requests relating to a number of said plurality of requests in said segment for which responses have not been received, said number of said outstanding requests associated with an upper bound number;

and

wherein said step of initiating each of said plurality of requests comprises comparing said number of outstanding requests in said segment with said upper bound number and initiating one request of said plurality of requests when said number of outstanding requests in said segment is less than said upper bound number.

Claim 5. (Currently Amended) [[A]] The method of defining an order for sending a plurality of requests for statistics as claimed in Claim 1,

said method further comprising steps of:

receiving data regarding a plurality of responses from each of said associated plurality of nodes which received said plurality of requests; and

tracking a number of outstanding requests for said each of said associated plurality of nodes, said number of outstanding requests for said each of said associated plurality of nodes relating to a number of said plurality of requests for said each of said associated plurality of nodes for which responses have not been received, each said number of said outstanding requests associated with an upper bound number;

and

wherein for each of said associated plurality of nodes, said step of initiating each of said plurality of requests when said number of said outstanding requests is less than said upper bound number, said each of said plurality of requests being sent independently to said each of said associated plurality of nodes.

Claim 6. (Currently Amended) [[A]] The method of defining an order for sending a plurality of requests for statistics as claimed in Claim 5, wherein said upper bound number for said each of said associated plurality of nodes is separately defined for said each of said associated plurality of nodes in said segment.

Claim 7. (Currently Amended) [[A]] The method of defining an order for sending a plurality of requests for statistics as claimed in Claim 1, wherein:

said value of said selected node attribute comprises a value representing a number of said plurality of requests to be initiated for each of said associated plurality of nodes in a time interval; and

said step of defining said sequence ranks said associated plurality of nodes in descending order utilizing each of said values of said selected node attribute of said associated plurality of nodes.

Claim 8. (Currently Amended) [[A]] The method of defining an order for sending a plurality of requests for statistics as claimed in Claim 1, wherein:

said selected node attribute is a response time of each of said associated plurality of nodes to previous requests of said plurality of requests; and

said step of defining said sequence ranks said associated plurality of nodes in descending order utilizing each of said values of said selected node attribute of said associated plurality of nodes.

Claim 9. (Currently Amended) [[A]] The method of defining an order for sending a plurality of requests for statistics as claimed in Claim 1, wherein:

said selected node attribute identifies an operating characteristic of each of said associated plurality of nodes; and

said step of defining said sequence ranks said associated plurality of nodes in a predetermined order utilizing each of said values of said selected node attribute of said associated plurality of nodes.

Claim 10. (Currently Amended) [[A]] The method of defining an order for sending a plurality of requests for statistics as claimed in Claim 9, wherein:

said operating characteristic indicates wireless and non-wireless transmission technologies associated with said each of said associated plurality of nodes; and

said step of defining said sequence ranks said associated plurality of nodes utilizing values of said operating characteristic, ranking nodes of said associated plurality of nodes having wireless transmission technologies with a higher priority.

Claim 11. (Currently Amended) [[A]] The method of defining an order for sending a plurality of requests for statistics as claimed in Claim 1, wherein said method is embodied in a computer program.

Claim 12. (Currently Amended) [[A]] The method of defining an order for sending a plurality of requests for statistics as claimed in Claim 1, wherein said method is repeated in a cyclic time interval.

Claim 13. (Currently Amended) [[A]] The method of defining an order for sending a plurality of requests for statistics as claimed in Claim 4,

wherein said method further comprises a step of ~~comprising~~:

tracking a second number of other outstanding requests for said each of said associated plurality of nodes, said second number of other outstanding requests for said each of said associated plurality of nodes relating to a number of said plurality of requests for said each of said associated plurality of nodes for which responses have not been received, each said second number of other outstanding requests associated with a nodal upper bound number; and

wherein said step of initiating each of said plurality of requests is performed when said number of said outstanding requests for said segment is less than said upper bound number and said second number of other outstanding requests is less than said nodal upper bound number for said individual node associated with said each of said plurality of requests.

Claim 14. (Currently Amended) A statistics collection unit associated with a communication network, said communication network comprising a plurality of nodes and each of said nodes having one or more node attributes, said statistics collection unit comprising:

a computer; and

a program executed on said computer, said program comprising:

a sequencing module defining a sequence for sending a plurality of requests for statistics to be sent to an associated plurality of nodes of said plurality of nodes, one or more requests of said plurality of requests being associated with an individual node of said associated plurality of nodes, said sequence based on a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes; and  
an initiating module initiating each of said plurality of requests according to said sequence [[.]] : and

a translation module defining for each node of said associated plurality of nodes a translated value related to said value of said selected node attribute prior to definition of said sequence by said sequencing module.

wherein said sequencing module utilizes a ranking of all translated values of said associated plurality of nodes to define said sequence.

Claim 15. (Cancelled)

Claim 16. (Currently Amended) [[A]] The statistics collection unit as claimed in Claim 14, wherein ~~said defining said sequence in~~ said sequencing module defines said sequence by ~~comprises~~ selecting two or more of said node attributes and for each of said two or more of said node attributes, and refining said ranking ~~of said associated plurality of nodes~~ based on said value of said each of said two or more of said node attributes.

Claim 17. (Currently Amended) [[A]] The statistics collection unit as claimed in Claim 14, wherein:

said program further comprises:

a receiving module receiving data regarding a plurality of responses from said associated plurality of nodes which received said plurality of requests; and  
a tracking module tracking a number of outstanding requests in a segment of said communication network, said segment comprising said associated plurality of nodes, said number of outstanding requests relating to a number of said plurality of requests in said segment for which responses have not been received, said number of said outstanding requests associated with an upper bound number;  
and

said initiating module initiates each of said plurality of requests by comparing said number of outstanding requests in said segment with said upper bound number and initiating one request of said plurality of requests when said number of outstanding requests in said segment is less than said upper bound number.

Claim 18. (Currently Amended) [[A]] The statistics collection unit as claimed in Claim 14, wherein:

said program further comprises:

a receiving module receiving data regarding a plurality of responses from each of said associated plurality of nodes which received said plurality of requests; and  
a tracking module tracking a number of outstanding requests for said each of said associated plurality of nodes, said number of outstanding requests for said each of said associated plurality of nodes relating to a number of said plurality of requests for said each of said associated plurality of nodes for which responses have not been received, each said number of said outstanding requests associated with an upper bound number; and

for each of said associated plurality of nodes, said initiation module initiates each of said plurality of requests when said number of said outstanding requests is less than said upper bound number, said each of said plurality of requests being sent independently to said each of said associated plurality of nodes.

Claim 19. (Cancelled)

Claim 20. (Currently Amended) An apparatus for use in a statistics collection unit ~~as claimed in Claim 19~~, in a communication network, said apparatus comprising:

a device defining a sequence for sending a plurality of requests for statistics to be sent from said statistics collection unit to an associated plurality of nodes of said plurality of nodes in said segment,

wherein for said device

one or more requests of said plurality of requests is associated with an individual node of said associated plurality of nodes;

each of said associated plurality of nodes has one or more node attributes;

said sequence is based on a ranking of said associated plurality of nodes based on a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes; and

said device initiates each of said plurality of requests according to said sequence.

Claim 21. (Currently Amended) [[An]] The apparatus for use in a statistics collection unit as claimed in Claim 20, wherein:

said device defines for each node of said associated plurality of nodes a translated value related to said value of said selected node attribute prior to said defining said sequence; and

said ~~sequence is based on a ranking~~ is based on [[of]] all of said translated values.

Claim 22. (Currently Amended) [[An]] The apparatus for use in a statistics collection unit as claimed in Claim 20, wherein for said device said defining said sequence comprises selecting two or more of said node attributes and for each of said two or more of said node attributes, refining said ranking of said associated plurality of nodes based on said value of said each of said two or more of said node attributes.

Claim 23. (Currently Amended) [[An]] The apparatus for use in a statistics collection unit as claimed in Claim 20, wherein said device:

receives data regarding a plurality of responses from said associated plurality of nodes which received said plurality of requests;

tracks a number of outstanding requests in a segment of said network, said segment comprising said associated plurality of said nodes, said number of outstanding requests relating to a number of said plurality of requests in said segment for which responses have not been received, said number of said outstanding requests associated with an upper bound number; and

initiates each of said plurality of requests by comparing said number of outstanding requests in said segment with said upper bound number and initiating one request of said plurality of requests when said number of outstanding requests in said segment is less than said upper bound number.



Claim 24. (Currently Amended) [[An]] The apparatus for use in a statistics collection unit as claimed in Claim 20, wherein said device:

receives data regarding a plurality of responses from each of said associated plurality of nodes which received said plurality of requests;

tracks a number of outstanding requests for said each of said associated plurality of nodes, said number of outstanding requests for said each of said associated plurality of nodes relating to a number of said plurality of requests for said each of said associated plurality of nodes for which responses have not been received, each said number of said outstanding requests associated with an upper bound number; and

for each of said associated plurality of nodes, initiates each of said plurality of requests when said number of outstanding requests is less than said upper bound number, said each of said plurality of requests being sent independently to said each of said associated plurality of nodes.

Claim 25. (Currently Amended) [[An]] The apparatus for use in a statistics collection unit as claimed in Claim 24, wherein said upper bound number for said each of said associated plurality of nodes is separately defined for said each of said associated plurality of nodes in said segment.

Claim 26. (Currently Amended) [[An]] The apparatus for use in a statistics collection unit as claimed in Claim 20, wherein:

said selected node attribute comprises a value representing a number of said plurality of requests to be initiated for each of said associated plurality of nodes in a time interval; and

said device defines ~~defining~~ said sequence by ranking ~~ranks~~ said associated plurality of nodes in descending order utilizing each of said value of said selected node attribute of said associated plurality of nodes.

Claim 27. (Currently Amended) [[An]] The apparatus for use in a statistics collection unit as claimed in Claim 20, wherein:

said selected node attribute is a response time of each of said individual nodes to previous requests of said plurality of requests; and

said device defines ~~defining~~ said sequence by ranking ~~ranks~~ said associated plurality of nodes in descending order utilizing each of said value of said selected node attribute of said associated plurality of nodes.

Claim 28. (Currently Amended) [[An]] The apparatus for use in a statistics collection unit as claimed in Claim 20, wherein:

said selected node attribute identifies an operating characteristic of each of said associated plurality of nodes; and

said device defines ~~defining~~ said sequence by ranking ~~ranks~~ said associated plurality of nodes in a predetermined order utilizing each of said value of said selected node attribute of said associated plurality of nodes.

Claim 29. (Currently Amended) [[An]] The apparatus for use in a statistics collection unit as claimed in Claim 28, wherein:

said operating characteristic indicates wireless and non-wireless transmission technologies associated with said each of said associated plurality of nodes; and

said device defines ~~defining~~ said sequence by ranking ~~ranks~~ said associated plurality of nodes utilizing values of said operating characteristic, ranking nodes of said associated plurality of nodes having wireless transmission technologies with a higher priority.

Claim 30. (Currently Amended) A computer executable program for use on a communication network, said communication network comprising a plurality of nodes, said computer executable program executing the steps of:

defining a sequence for sending a plurality of requests for statistics to an associated plurality of said nodes of said plurality of nodes by selecting two or more of said node attributes and for each of said two or more of said node attributes and ranking said associated plurality of nodes based on said value of said each of said two or more of said

node attributes, one or more requests of said plurality of requests being associated with an individual node of said associated plurality of nodes and each of said associated plurality of nodes having one or more node attributes, said sequence being based on a value of a selected node attribute of said one or more node attributes of each of said associated plurality of nodes; and

initiating each of said plurality of requests according to said sequence.

Claim 31. (Currently Amended) [[A]] The computer executable program as claimed in Claim 30, said computer executable program further executing the step of defining for each node of said associated plurality of nodes a translated value related to said value of said selected node attribute prior to said defining said sequence and wherein said sequence is based on a ranking of all of said translated values.

Claim 32 (Cancelled)

Claim 33. (Currently Amended) [[A]] The computer executable program as claimed in Claim 30, wherein

said computer executable program further executing the steps of

receiving data regarding a plurality of responses from said associated plurality of nodes which received said plurality of requests; and

tracking a number of outstanding requests in a segment of said communication network, said segment comprising said associated plurality of nodes, said number of outstanding requests relating to a number of said plurality of requests in said segment for which responses have not been received, said number of said outstanding requests associated with an upper bound number;

and

said ~~initiating~~ each of said plurality of requests ~~comprises~~ is initiated by comparing said number of outstanding requests in said segment with said upper bound number and

initiating one request of said plurality of requests when said number of outstanding requests in said segment is less than said upper bound number.

Claim 34. (Currently Amended) [[A]] The computer executable program as claimed in Claim 30, wherein

said computer executable program further executing the steps of

receiving data regarding a plurality of responses from each of said associated plurality of nodes which received said plurality of requests; and tracking a number of outstanding requests for said each of said associated plurality of nodes, said number of outstanding requests for said each of said associated plurality of nodes relating to a number of said plurality of requests for said each of said associated plurality of nodes for which responses have not been received, each said number of said outstanding requests associated with an upper bound number; and

for each of said associated plurality of nodes, said ~~initiating~~ each of said plurality of requests is initiated when said number of outstanding requests is less than said upper bound number, said each of said plurality of requests being sent independently to said each of said associated plurality of nodes.

### REMARKS

In the Office Action of April 21, 2005, Examiner rejected claims 1, 9, 11, 12, 14, 19 and 30 under 35 USC Section 102 as being anticipated by U.S. Patent No. 5,822,535 to Takase. Examiner found claims 2-8, 10, 13, 15-18, 20-29 and 31-34 to be allowable, if rewritten in independent form with all limitations of the base claim and any intervening claims.

In this Response, 31 claims are presented in claims 1, 3-14, 16-18, 20-31, 33 and 34. Claims 2, 15, 19 and 32 are cancelled. Applicant amends the following claims to introduce selected allowable subject matter therein:

- Claim 1 is amended to incorporate all substantive features of claim 2;
- Claim 14 is amended to incorporate all substantive features of claim 15;
- Claim 20 is amended to incorporate all substantive features of claim 19; and
- Claim 30 is amended to incorporate all substantive features of claim 32.

As the substantive features incorporated into claims 1, 14, 20 and 30 relate to allowable subject matter, Applicant submits that claims 1, 14, 20 and 30 are allowable.

The following grammatical and style amendments are also made:

- Dependent claims 3-13, 16-18, 21-29, 31, 33 and 34 are amended to correct antecedents of the initial article in their preamble, namely replacing "A" or "An" with --The--.
- Method claims 1, 3, 4, 5, 7, 8, 9, 10 and 13 are amended to improve clarity by introducing the phrase --steps of-- or --step of-- prior to elements certain elements.

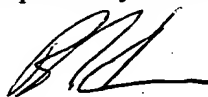
- Claims 4 and 5 are amended to correct grammar that identify their elements by adding the word --and-- between elements.
- Claim 13 is amended to correct grammar by replacing the word "comprising" with --comprises--.
- Claim 16 is amended to associate its elements with the sequencing module and to correct antecedents for its associated elements.
- Claims 21 and 22 are amended to amend the term "ranking" to --said ranking-- in view of amendments made to claim 20.
- Claims 26, 27, 28 and 29 are amended to clarify their elements by changing the phrase "said defining said sequence rank" to --said device defines said sequence by ranking--.
- Claims 33 and 34 are amended to improve their clarity for their identified steps.

Further, as claims 3-13 depend from claim 1, claims 16-18 depend from claim 14, claims 21-29 depend from claim 20 and claims 31, 33 and 34 depend from claim 30, it is submitted that these dependent claims are in condition for allowance as well. Also, while Examiner had rejected claims 9, 11 and 12 in view of Takase, Applicant submits that in view of amendments made to claim 1, claims 9, 11 and 12 comprise patentable subject matter, traversing Examiner's rejections. It is further noted that the Examiner found allowable subject matter specifically in claims 3-8, 10, 13, 16-18, 21-29 and 31, 33 and 34.

Applicant believes that no excess claim fee is payable. However if any claim fee or any other fees are payable, Commissioner is authorized to charge any such fees to agent's deposit account no. 15-0633.

No new subject matter is provided with the present amendments. In view of the present amendments, Applicant submits that the claims as provided herein are in condition for allowance. Applicant earnestly solicits that this application be permitted to proceed to allowance. The Examiner is invited to contact the undersigned by telephone to discuss this case further, if necessary.

Respectfully submitted



July 20, 2005

Date

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**TITLE: METHOD AND APPARATUS FOR PROCESSING REQUESTS FOR  
STATISTICS IN A COMMUNICATION NETWORK**

**FIELD OF THE INVENTION**

The invention relates generally to data communications, and more particularly to a method and apparatus for processing requests for statistics in a communication network.

**BACKGROUND OF THE INVENTION**

Communication networks comprise a plurality of nodes, or switches, which are interconnected to form a web of nodes. Users communicate with other users in the network by transmitting messages and data through the network. Data is routed or switched through a path of connected nodes from the node associated with the sender to node associated with the recipient.

Each node may maintain a set of statistics relating to the network traffic passing therethrough. Statistics include performance, usage or billing data collected from a communication network. The statistics may be used for billing purposes, evaluation of network performance at a node and fault diagnostics that may be present about a node. Typically, statistics are tracked using software modules which track aspects of the statistics in counters or registers internal to the nodes. The counters may be embodied in hardware or software using techniques known in the art. Generally, to conserve resources, the counters maintain only recent data. Further, the counters may be configured to be reset after a predetermined time period or interval. Typical reset intervals are 5 minutes, 15 minutes, 60 minutes and 24 hours. The counter

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of expected responses. Per-node limitations include: (i) node response time, (ii) node resource limitations and (iii) upper bound on the number of outstanding requests for the node given that the node must divert switching resources to respond to such requests. An outstanding request is a request for which a response from the node has not yet been communicated to the statistics collection unit.

In prior art systems, requests for statistics for a specific interval are sent to the network in blocks which are not modelled for bandwidth or other efficiencies. As such, the system and per-node constraints may combine to defer requests to a node so that statistics collection is not maximized for a given interval. This may result in a loss of statistical data. Timely polling of the counters in a node must occur or the overall statistics collection process will produce incomplete or inaccurate results.

Additionally, in the prior art, a statistics collection unit may use an overly conservative constraint for the number of outstanding requests allowed for a particular node. A typical conservative constraint used is the smallest number of outstanding requests allowed for the nodes in the segment or network as the constraint for every node in the segment or network. This may underutilize a given node and defer further requests for that node until the current outstanding requests are answered. Deferring requests to the node may result statistics collection not being maximized for a given interval resulting in a loss of statistical data.

There remains a need for a system and method which improves upon the use of available resources in processing requests for statistics to nodes in a network.

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## SUMMARY OF THE INVENTION

In a first aspect of the invention, a method of defining an order for sending a plurality of requests for statistics to an associated plurality of nodes of a communication network is provided. One or more requests are associated with an individual node. Each node has one or more node attributes. The method includes defining a sequence for sending the requests to be sent to the nodes. The sequence is based on a value of a selected node attribute of each node. The method also includes initiating each of the requests according to the sequence.

The method may define for each node a translated value related to the value of the selected node attribute prior to defining the sequence and base the sequence on a ranking of all of the translated values.

The method may select two or more node attributes and for each of these node attributes, refine the ranking of the nodes based on the value of each of those node attributes.

The method may receive data regarding a plurality of responses from the nodes which received requests. The method may track a number of outstanding requests in a segment of the communication network. The segment includes the associated nodes. The number of outstanding requests relates to a number of requests in the segment for which responses have not been received. The number of outstanding requests is associated with an upper bound number. The method may also initiate each of the requests by comparing the number of outstanding requests in the segment with the upper bound number and initiate one request when the number of outstanding requests in the segment is less than the upper bound number.

The method may receive data regarding a plurality of responses from each node which received the requests. The method may track a number of outstanding requests for each node. The number of outstanding requests for each node relates to a number of requests for which

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responses have not been received for each node. Each number of outstanding requests is associated with an upper bound number. The method may, for each node, initiate the requests when the number of said outstanding requests is less than the upper bound number, each request being sent independently to its associated node.

The method may separately define the upper bound number for each node in the segment.

The method may select a selected node attribute which has a value representing a number of requests to be initiated for each node in a time interval. The method may define the sequence by ranking the nodes in descending order utilizing each of the values of the selected node attribute of the nodes.

The method may select a selected node attribute which is a response time of each of the nodes to previous requests. The method may define the sequence by ranking the nodes in descending order utilizing each of the values of the selected node attribute of the of nodes.

The method may select a selected node attribute which identifies an operating characteristic of each of the nodes. The method may define the sequence by ranking the nodes in a predetermined order utilizing each of the values of the selected node attribute of the nodes.

The method may utilize an operating characteristic which indicates wireless and non-wireless transmission technologies associated with each of the nodes. The method may define the sequence by ranking the nodes utilizing values of the operating characteristic and ranking nodes having wireless transmission technologies with a higher priority.

The method may be embodied in a computer program.

The method may be repeated in a cyclic time interval.

The method may track a second number of other outstanding requests for each of the nodes. The second number of other outstanding requests for each of the associated nodes relates

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is gathered from each of nodes 169-171 in each interval since both system and per-node limitations can defer the arrival of individual requests for statistics or the responses thereto.

As described earlier, there are limitations in processing requests. System level limitations include the time required for building a request, the number of items that can be transmitted with a single request and the upper bound on outstanding requests in segment 114 given the capacity of links in segment 114 and the number of expected responses from nodes 169-171. Per-node limitations include the response time for each of nodes 169-171, computational processing limitations for nodes 169-171 and the upper bound on the number of outstanding requests for each of nodes 169-171 that marks when each node must divert switching resources to respond to such requests. An outstanding request is a request for which a response from its associated node 161-171 has not yet been communicated to its statistics collection unit 141-143.

The embodiment utilizes algorithms to initiate requests in a sequence to make efficient use of available resources, including bandwidth, of the node and the network. Alternatively, the sequence can be defined so that the number of requests to specific counters (chosen by the network operator) is maximized. It will be appreciated that, in some circumstances, resource usage may be managed by defining the sequence for initiating requests using a time-response algorithm that allows response to a greater number of requests from all nodes. In other circumstances, resource usage may be managed by defining the sequence on a hierarchical node ordering system, collecting data from specific nodes first.

Referring to Figure 3, information that may be used to define the sequence for initiating the requests to nodes 169-171 is stored in sets of node attributes 369-371. Similarly, the information that may be used to define the sequence for initiating the requests to nodes 161-164

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